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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/260,448	03/02/1999	KEVIN SNOW MCCURLEY	AM9-98-125	6565

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EXAMINER

REVAK, CHRISTOPHER A

ART UNIT	PAPER NUMBER
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2131

DATE MAILED: 06/26/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/260,448

Applicant(s)

MCCURLEY ET AL.

Examiner

Christopher A. Revak

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 April 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3, 5-42, 44-81 and 83-117 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 5-42, 44-81, 83-117 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

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DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 1-3,5-42,44-81, and 83-117 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1,5-11,14,16,17,21,22,40,44-50,53,55,56,60,61,79,83-89,92,94,95,99, and 100 are rejected under 35 U.S.C. 103(a) as being unpatentable over Freier et al.

As per claims 1,5,40,44,79, and 83, it is disclosed by Freier et al of establishing an SSL session that includes multiple secure (network) connections and parties may have multiple simultaneous (multiplexed) sessions (tunnels)(pg 9-10, Section 5.1). The SSL protocol is configured to establish a (single) secure (encrypted) connection (tunnel) between a client and a server communicating across an insecure channel whereby both parties (client and server) are authenticated to each other (after the secure connection is opened)(pg 49, Section F & F.1.1). At a lowest level, SSL is layered on top of TCP (user level) which is a transport protocol (pg 3,

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Section 1). The teachings of Freier et al disclose of establishing multiplexing and tunneling (secure connection). The teachings are silent in disclosing of either of the endpoints of the being able to receive data or receive connection. The examiner hereby takes official notice that such a concept is notoriously well known to one of skill in the art. It would have been obvious to a person of ordinary skill in the art to have been motivated to apply a means of being able to receive data and to receive connection requests. It is notoriously well known to one of skill that in order to establish a connection between two parties (endpoints), one of the parties (endpoints) have to initiate the connection whereby the other receives the request for connection and if the connection is authenticated (in light of the teachings of Freier et al), the connection is permitted between the two. Additionally, the teachings of Freier et al disclose of establishing a secure tunnel between two parties (endpoints) whereby it is notoriously well known that either of the two can receive data wherein one of the locations is a sender and the other is the recipient of the information. It is obvious that the teachings of Freier et al comprise the features of at least one of the parties (endpoints) being able to receive connection requests and to receive data for that is the intent of the teachings to establish a secure tunnel (connection) which mutually authenticates both parties (endpoints) and upon successful authentication, secure communications is permitted which would include the sending and receiving of data (pg 49, Section F & F.1.1).

As per claims 3, 42, and 81, it is disclosed by Freier et al of the use of SSL and by establishing secure tunnels. Symmetric keys are used for data encryption (secure connection)(pg 4, Section 1).

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As per claims 6,7,11,45,46,50,84,85, and 89, it is disclosed by Freier et al of a means which uses multiplexing and the establishment of secure tunnels. The teachings of Freier et al are silent on disclosing the use of maintaining sufficient send buffers for receiving forwarded data between endpoints and maintaining buffers for the multiplexed data. The examiner hereby takes official notice that such a concept is notoriously well known. It would have been obvious to a person of ordinary skill in the art that the use of buffers is necessary since large amounts of data can not be in complete form, but rather in segmented portions by means such as packets or frames. Since the information has to be segmented, it is held in a temporary storage which holds it until all the information has been received where it will then be reassembled into its original form where it can then be executed. Since it is notoriously well known that a processor cannot properly execute portions of data or if the data is out of order, buffering the data would allow the data in its entirety to be successfully executed if it is sent through a single connection or transferred to multiple destinations via multiplexing. Although the teachings of Freier et al are silent on this concept, it is obvious that there exists sufficient buffers to handle large volumes of information that which are transferred across networks in a secure manner.

As per claim 8-10,47-49, and 86-88, the teachings of Freier et al are silent in disclosing the use of queuing data received at a destination, dispatching the queued data to a final destination, and to acknowledge the receipt of the data which tracks the usage of buffers at the endpoint. The examiner hereby takes official notice that such a concept is notoriously well known. It would have been obvious to a person of ordinary skill that it is notoriously well known that the use of

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buffers is necessary since large amounts of data can not be in complete form, but rather in segmented portions by means such as packets or frames. Since the information has to be segmented, it is held in a temporary storage which holds it until all the information has been received where it will then be reassembled into its original form where it can then be executed. The information is then placed in a queue which accepts stages the data as a first in, first out pattern and the recipient then reassembles the data and checks to see if all the data has been correctly received. The information in the buffers is tracked to monitor the data flow to insure that all the data is received. It is obvious that the teachings of Freier et al utilizes a queue for staging data as is notoriously known to one of skill in the art.

As per claims 14,16,17,21,22,53,55,56,60,61,92,94,95,99 and 100, it is recited by Freier et al of a secure connection (portals) between a client and a server. The teachings of Freier et al are silent in disclosing of the use of a client operating behind a firewall (gate) and the use of communications between an Intranet and the Internet. The examiner hereby asserts that it is obvious to make of these features. SSL is known as a protocol which can be implemented in any networking environment and as long as the two parties are authenticated to one another, based on the teachings of Freier et al (pg 49, Section F & F.1.1), the secure connection can be established. The teachings of Freier et al only disclose of the establishment of a connection between a client and server, but alternative forms of connections can occur across the Internet with connections to local area networks, Intranets, or other destinations. The locals are typically protected by means of a firewall which is known as a security system to protect an organization's network from

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external threats across the Internet and all communications are routed through a proxy server outside the organization to protect the network from communicating directly with potential attackers. It is obvious that SSL can be applied to different infrastructures wishing to establish secure connections with one another.

4. Claims 2,28-39,41,67-78,80, and 106-117 rejected under 35 U.S.C. 103(a) as being unpatentable over Freier et al in view of Fryer et al.

As per claims 2,41, and 80, Freier et al discloses of the use of TCP (pg 3, Section 1). The teachings of Freier et al are silent in disclosing the use of UDP (User Datagram Protocol). It is disclosed by Fryer et al that UDP is a connectionless protocol within TCP/IP (pg 482). It would have been obvious to a person of ordinary skill in the art at the time of the invention to have been motivated to apply UDP as an alternative protocol. Fryer et al discloses the benefits of UDP by reciting that UDP converts messages generated by an application into packets which are sent via IP, but does not verify that messages have been delivered correctly and it is more efficient than TCP (pg 482). The teachings of Freier et al do disclose of the use of TCP/IP (pg 39, Appendix B) and it would have been obvious that the teachings of Freier et al would have benefitted by utilizing UDP as an efficient means of transferring information as disclosed by Fryer et al.

As per claims 28-39,67-78, and 106-117, it is disclosed by Freier et al of establishing an SSL session that includes multiple secure (network) connections and parties may have multiple simultaneous (multiplexed) sessions (tunnels)(pg 9-10, Section 5.1). The SSL protocol is

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configured to establish a (single) secure (encrypted) connection (tunnel) between a client and a server communicating across an insecure channel whereby both parties (client and server) are authenticated to each other (after the secure connection is opened)(pg 49, Section F & F.1.1).

The teachings of Fryer et al are relied upon for the use of UDP. The teachings of Freier et al are silent in disclosing of the use of record exchanges between the endpoints wherein an usheropen, usheropenreply, ushersend, usherclose, ushersendudp, usherack, usherend, and usherrst records.

The examiner hereby takes official notice that the use of those records are notoriously well known as protocol standards for establishing connections and allowing computers to communicate with one another. It would have been obvious to a person of ordinary skill in the art at the time of the invention to have been inclined to use a particular type of protocol to set up communications with a remotely located node and that there are procedures that have to occur in order for the communications to take place. Using an usheropen command would allow a connection to be opened, the usheropen reply is a reply responsive to the usheropen command, the ushersend command passes the information, the usherack acknowledges the information that which is received, the usher close command ends the connection, the ushersendudp command initiates the sending of UDP packets, the usherend command terminates a connection, and the usherrst command resets the connection. In any of the situations, the particular protocol type commands are responsive to conditions that dictate the success of a connection, for the cause of the usherack command, if an acknowledgment is unsuccessful, then the connection can not be established, it may or may not retry sending for an acknowledgment and then may time out without a connection

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being established. It is obvious that the teachings of Freier et al follow the protocols of TCP that obey the rules that govern the particular type of protocol as is notoriously well known that which is used for establishing connections and allowing the respective computers to communicate.

5. Claims 12,51, and 90 are rejected under 35 U.S.C. 103(a) as being unpatentable over Freier et al in view of Griffiths et al.

It is disclosed by Freier et al of the establishment of a secure tunnel across the Internet. The teachings of Freier et al are silent on disclosing of resolving domain names. It is taught by Griffiths et al of the use of a domain name system which resolves domain names (col. 11, lines 59-63). It would have been obvious to a person of ordinary skill in the art at the time of the invention to have been motivated to apply a means to resolve domain names in order to establish a connection with a remotely located web site. Griffiths et al recites motivation for the use of DNS by reciting that it is essential that domain name has an associated IP address that needs to be determined from the URL address. Since the user enters a URL address, it must be resolved to a specific IP address in order to access the web site (col. 11, line 59 through col. 12, line 15). It is obvious that the teachings of Freier et al use domain name resolving since it is essential for this to occur unless if the particular user knows the IP address which can then be entered.

6. Claims 13,52, and 91 are rejected under 35 U.S.C. 103(a) as being unpatentable over Freier et al in view of the Netscape Handbook.

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It is disclosed by Freier et al of establishing an SSL session that includes multiple secure (network) connections and parties may have multiple simultaneous (multiplexed) sessions (tunnels)(pg 9-10, Section 5.1). The SSL protocol is configured to establish a (single) secure (encrypted) connection (tunnel) between a client and a server communicating across an insecure channel whereby both parties (client and server) are authenticated to each other (after the secure connection is opened)(pg 49, Section F & F.1.1). The teachings of Freier et al are silent in disclosing of the use of SOCKS mode. The Netscape Handbook discloses of the use of SOCKS which is software that allows computers inside a firewall to gain access to the Internet and is usually installed on a server positioned either inside or on the firewall (pg 15-16). It would have been obvious to a person of ordinary skill in the art at the time of the invention to have been motivated to apply SOCKS as a means of accessing information on the Internet. The Netscape Handbook recites motivation for the use of SOCKS as allowing a client inside a firewall gain access to the Internet. It is obvious that the teachings of Freier et al would have used SOCKS since clients access information across the Internet and SOCKS is the protocol which allows the communications.

7. Claims 15,18-20,23-25,54,57-59,62-64,93,96-98, and 101-103 are rejected under 35 U.S.C. 103(a) as being unpatentable over Freier et al in view of Coley et al.

The teachings of Freier et al disclose of the use of SSL which provides a secure channel (portal). It is obvious that the teachings of Freier et al can be utilized in the environment of

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Internet and an Intranet which utilize a firewall (see motivation in the cited rejection of claims 14,16,17,21,22,53,55,56,60,61,92,94,95,99 and 100). It is obvious that the teachings of Freier et al can implement a firewall, but the disclosure is silent in reciting of the use of a bastion firewall host computer. It is disclosed by Coley et al of this feature of a bastion firewall host computer (col. 12, line 12). It would have been obvious to a person of ordinary skill in the art to have been motivated to apply a bastion firewall since Coley et al recites motivation for the use of a bastion firewall by disclosing that using a firewall as a bastion host, it acts on behalf of the user and the identity of the internal network elements is preserved since the firewall protects the identity of whose elements it is acting on behalf of and the external users see the address of the firewall, not the internal elements, namely the user's client computer (col. 12, lines 14-24). The teachings of Freier et al would have benefitted from this feature to allow the user's identity to be further protected in addition to establishing a secure connection with a trusted location and the teachings of Coley et al add an additional security measure which would not have affected the operations of the teachings of Freier et al.

8. Claims 26,65, and 104 are rejected under 35 U.S.C. 103(a) as being unpatentable over Freier et al in view of Raz.

The teachings of Freier et al are silent in disclosing of the use of communications between an Intranet and the Internet. The examiner hereby asserts that it is obvious to make of these features. SSL is known as a protocol which can be implemented in any networking environment

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and as long as the two parties are authenticated to one another, based on the teachings of Freier et al (pg 49, Section F & F.1.1), the secure connection can be established. The teachings of Freier et al only disclose of the establishment of a connection between a client and server, but alternative forms of connections can occur across the Internet with connections to local area networks, Intranets, or other destinations. It is obvious that SSL can be applied to different infrastructures wishing to establish secure connections with one another.

The teachings of Freier et al are silent in reciting of the use of a second Intranet. It is disclosed by Raz of the use of multiple Intranets (col. 11, lines 56-57). It would have been obvious at the time of the invention to have been motivated to apply additional Intranets to allow multiple users residing on different Intranets access to the Internet. The teachings of Raz recite motivation for the use of multiple Intranets by disclosing firewalls protect the Intranets and SSL is used to protect the transaction data that is conducted by the clients located on the Intranets and the servers located on the Internet (col. 11, lines 53-64). It is obvious that the teachings of Freier et al are not limited to just one Intranet, but rather to multiple Intranets to allow for secure transactions to be conducted via SSL from any location.

9. Claims 27,66, and 105 are rejected under 35 U.S.C. 103(a) as being unpatentable over Freier et al in view of Raz in further view of Coley et al.

The teachings of Freier et al are silent in disclosing of the use of a client operating behind a firewall (gate) and the use of communications between an Intranet and the Internet. The

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examiner hereby asserts that it is obvious to make of these features. SSL is known as a protocol which can be implemented in any networking environment and as long as the two parties are authenticated to one another, based on the teachings of Freier et al (pg 49, Section F & F.1.1), the secure connection can be established. The teachings of Freier et al only disclose of the establishment of a connection between a client and server, but alternative forms of connections can occur across the Internet with connections to local area networks, Intranets, or other destinations. The locals are typically protected by means of a firewall which is known as a security system to protect an organization's network from external threats across the Internet and all communications are routed through a proxy server outside the organization to protect the network from communicating directly with potential attackers. It is obvious that SSL can be applied to different infrastructures wishing to establish secure connections with one another.

It is obvious that the teachings of Freier et al can implement usage of a firewall, but are silent in disclosing the use of a bastion firewall host computer. It is disclosed by Coley et al of this feature of a bastion firewall host computer (col. 12, line 12). It would have been obvious to a person of ordinary skill in the art to have been motivated to apply a bastion firewall since Coley et al recites motivation for the use of a bastion firewall by disclosing that using a firewall as a bastion host, it acts on behalf of the user and the identity of the internal network elements is preserved since the firewall protects the identity of whose elements it is acting on behalf of and the external users see the address of the firewall, not the internal elements, namely the user's client computer (col. 12, lines 14-24). The teachings of Freier et al would have benefitted from this feature to

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allow the user's identity to be further protected in addition to establishing a secure connection with a trusted location and the teachings of Coley et al add an additional security measure which would not have affected the operations of the teachings of Freier et al.

Conclusion

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher Revak whose telephone number is (703) 305-1843. The examiner can normally be reached on Monday-Thursday from 6:30 am to 4:00 pm. The examiner can also be reached on alternate Fridays from 6:30 am to 3:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ayaz Sheikh, can be reached on (703) 305-9648. The fax phone number for the organization where this application or proceeding is assigned as follows:

for After-Final Communications: (703) 746-7238;

for Official Communications: (703) 746-7239;

for Non-Official Communications: (703) 746-7240.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

CR

June 22, 2003


GAIL HAYES
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100